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contents:

ONE-MAN SHOW
Rudolph Janu 4

MAN WITH A MOTORIZED THUMB
Pictures by John Crozier 10

NEW PRODUCTS
AN 8MM PROJECTOR, VISOFLEX IIa WITH RAPID-RETURN MIRROR, FAST-FOCUSING, LONG-LENS MOUNT, AND OTHERS 12

LEICA SCHOOL NOTEBOOK
Tips From The Technical Center 19

B/W FROM COLOR—THE EASY WAY
Stanley R. Balderson 22

LEARN TO SPEAK BASIC "MOVIE"
A VOCABULARY FOR LEICINA OWNERS 24

FOCUSING ON 26

COVER

Gjon Mili

This vernal moment occurred on the set of Billy Wilder's "One, Two, Three." Shown are two of the picture's stars—Pamela Tiffin and Horst Buchholz. The cover shot is one of a series of stills which Mili made during the filming of the movie. Leica M3, 90mm Elmarit, f/8 at 1/50th, Daylight Kodachrome.

◀ INSIDE COVER

Dr. Erwin J. Saxl

The photographer, who is a scientist and business executive, has caught a "decisive moment" in the tumultuous life of the waters off Halibut Point, Rockport, Mass. Leica M3, 50mm Summicron, 1/250th at f/8, on Panatomic-X.

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The editors are happy to consider original articles on photography with the Leica and photographs taken with Leica cameras and lenses. All manuscripts and photographs should be accompanied by stamped, self-addressed return labels.

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one-man show

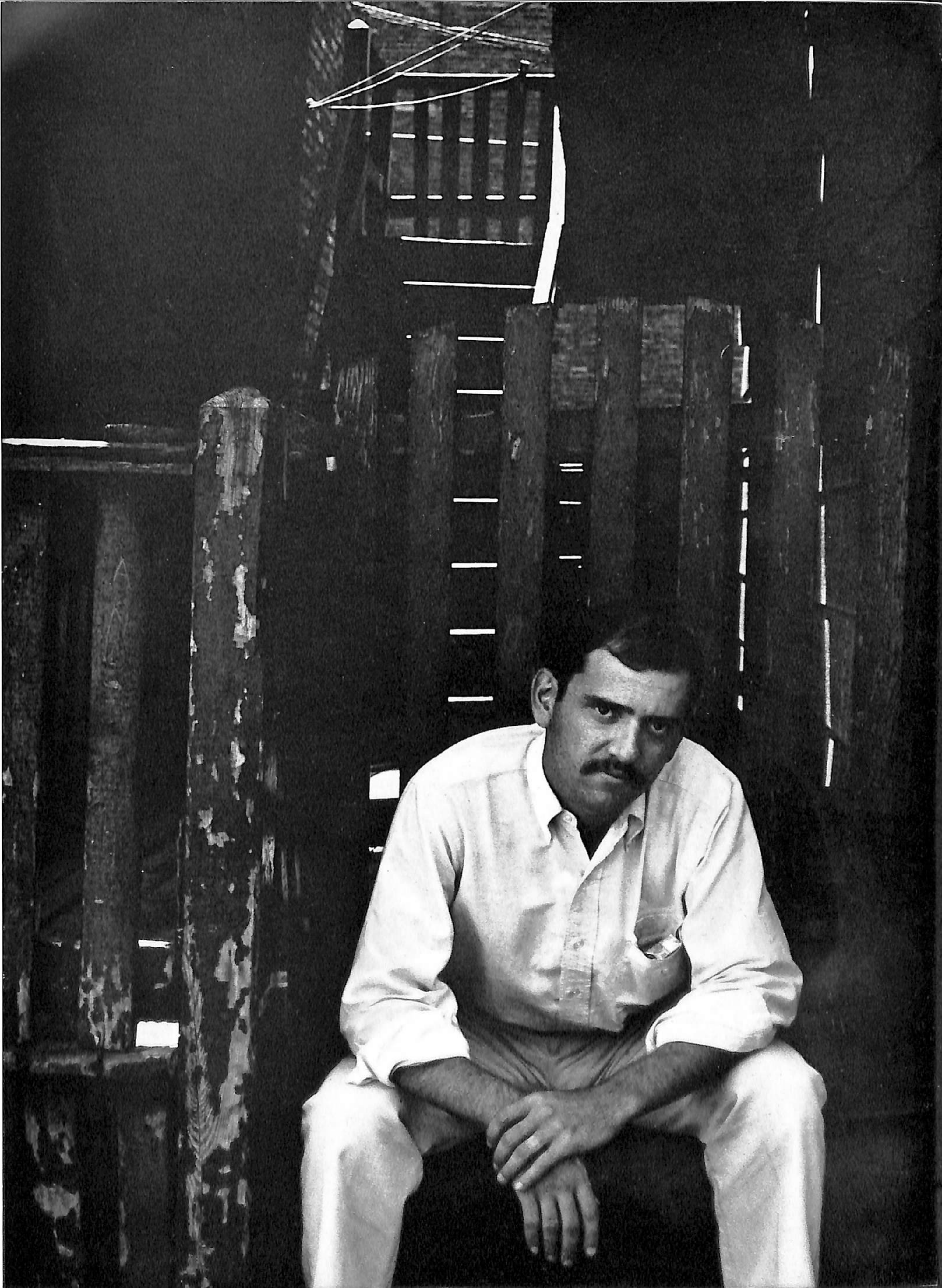
RUDOLPH JANU, photojournalist

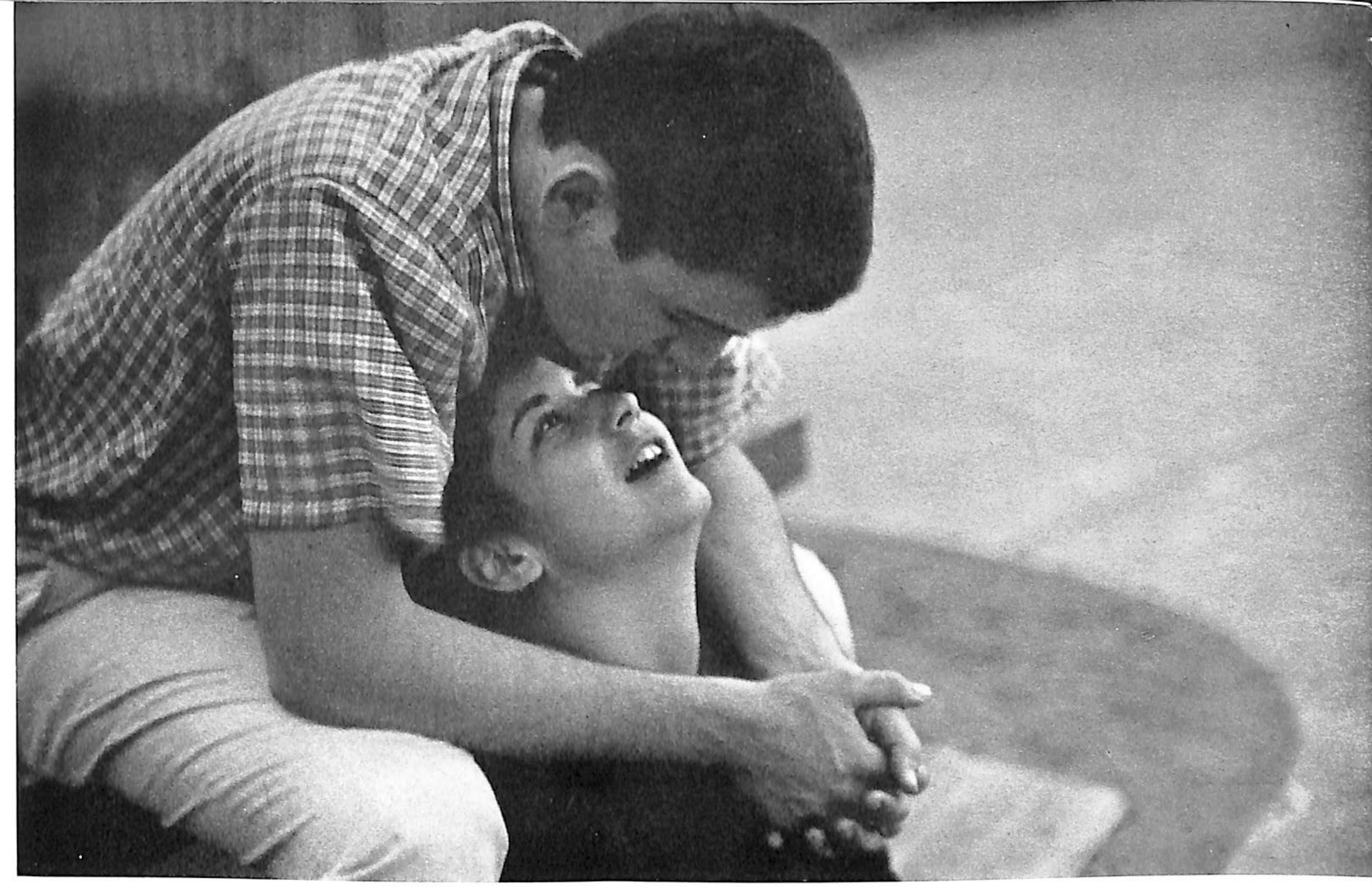
Rudolph Janu, a Chicagoan of 27, is a concerned man. He is concerned with the sham and irony of much of today's culture. He is concerned that loneliness is epidemic and that so much of so many lives in the middle of the twentieth century must be devoted to a search for affection and meaning.

Janu does not express this concern in conversation. Like many fine photographers, he finds it hard to put his aims into words. Appropriately, it is his pictures which tell us how he feels. And, although he is basically moved by the melancholy he sees around him, he is often also amused. From time to time a wry humor creeps into his work, leavening a basically serious outlook. While they always retain individuality, some of Janu's pictures look as if they might have been taken by Robert Frank in a cheerful frame of mind – unlikely as that may perhaps sound to you.

Until 1958, Janu was a commercial artist who found himself more and more drawn to photography as a means of expression and livelihood. Yielding to its pull, he took a job as an assistant in an advertising photography studio. But, after six months, he found himself unsatisfied "with the rigid sterility found in most advertising photography." And so he became a free-lance photojournalist – to learn, as he says, what he felt he had to learn about his newly-chosen field. And, one feels after seeing his pictures, he also took the step to say what he had to say about the world in which he lives.

His tools are the classics of photojournalism – the Leica with 35mm, 50mm and 90mm lenses. As we can see, he uses them well.





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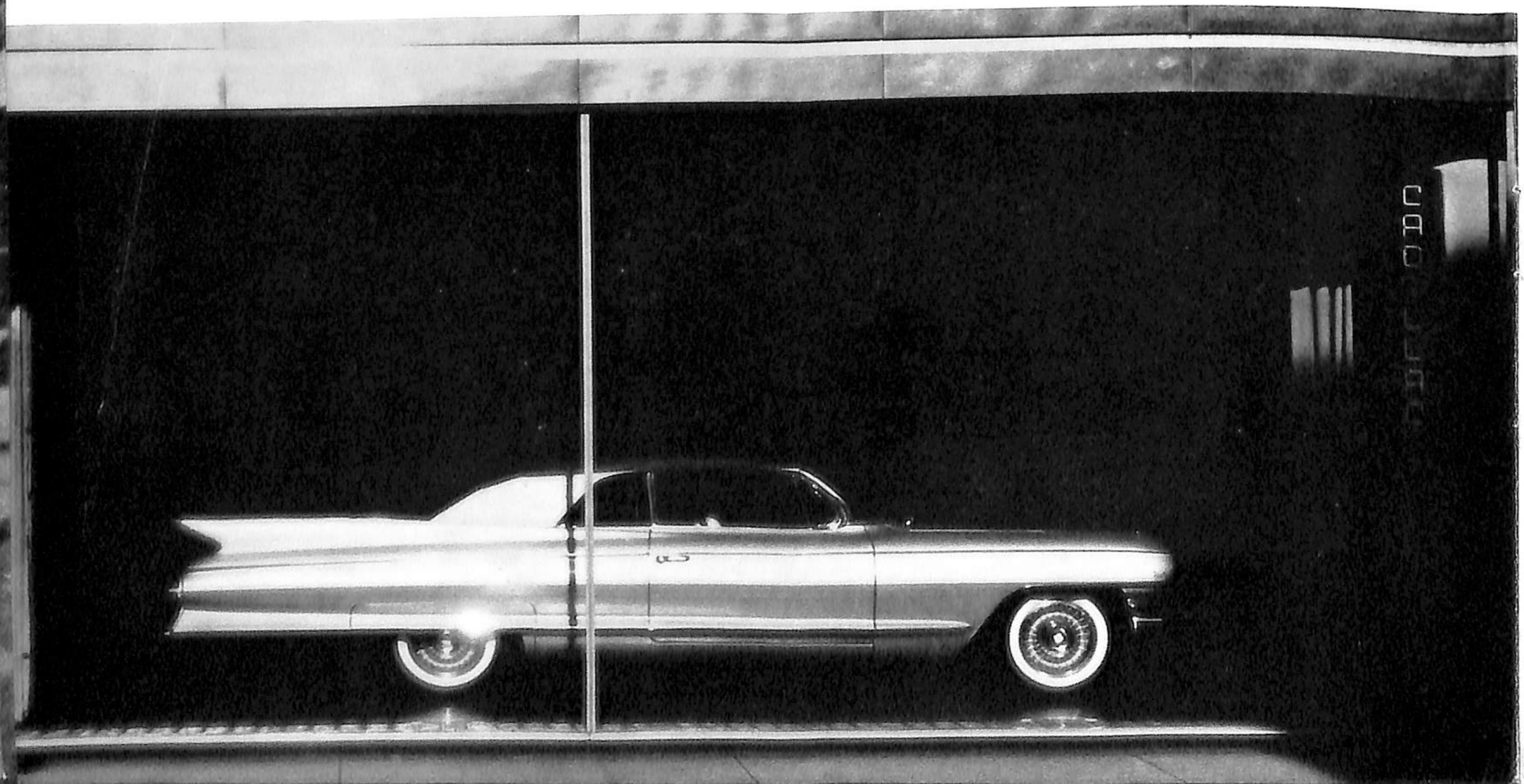
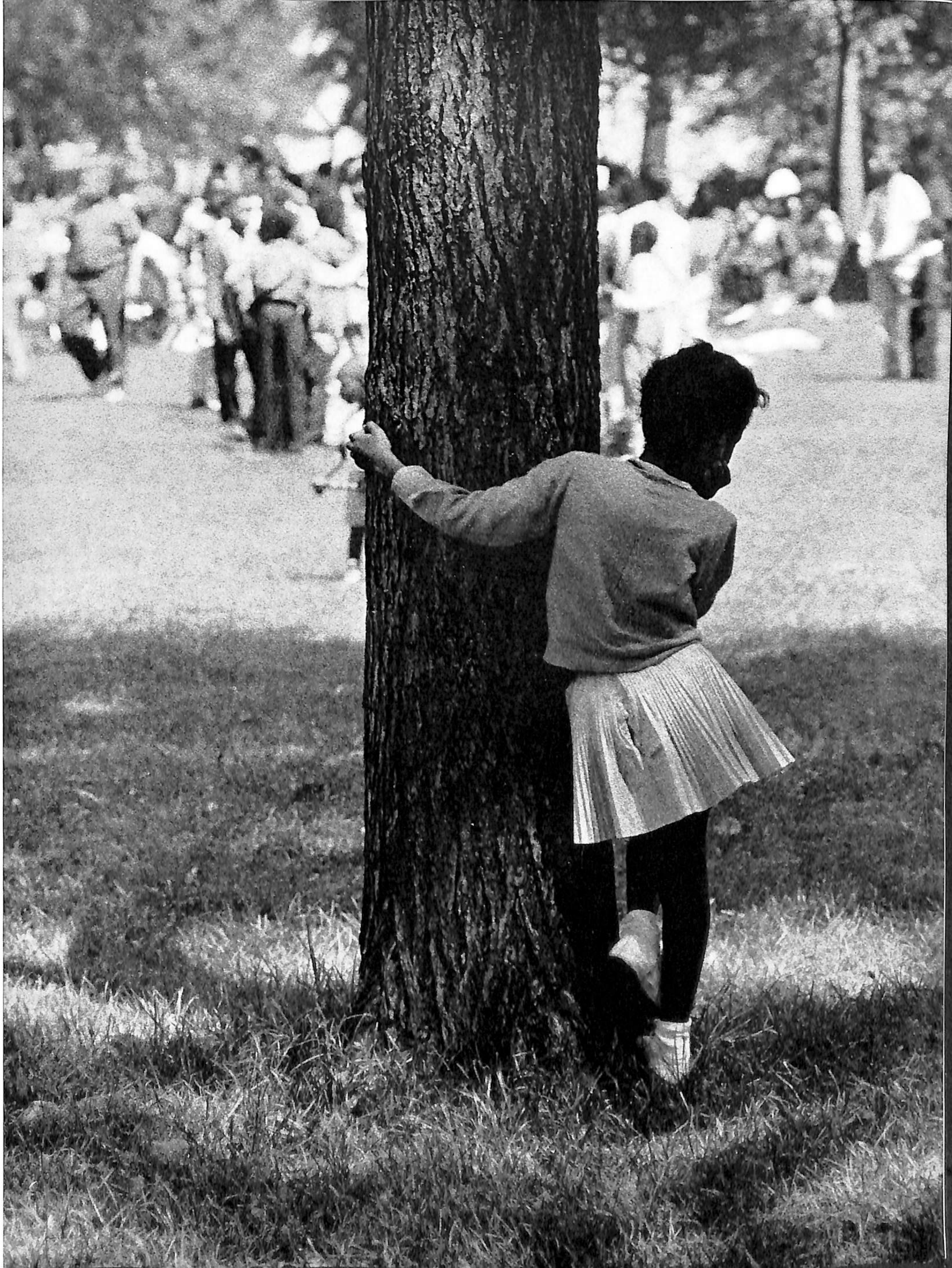




John Crozier

the man with the motorized thumb

standard advance lever makes action sequences

Apparently no one has ever told John Crozier, a specialist in auto-racing photography, that he *can't possibly* shoot crack-up sequences without a motorized camera or rapid-wind equipment.

So, he does—using only the standard film advance lever on his M2. And not just once, or by chance, but every time he sees a track mishap begin.

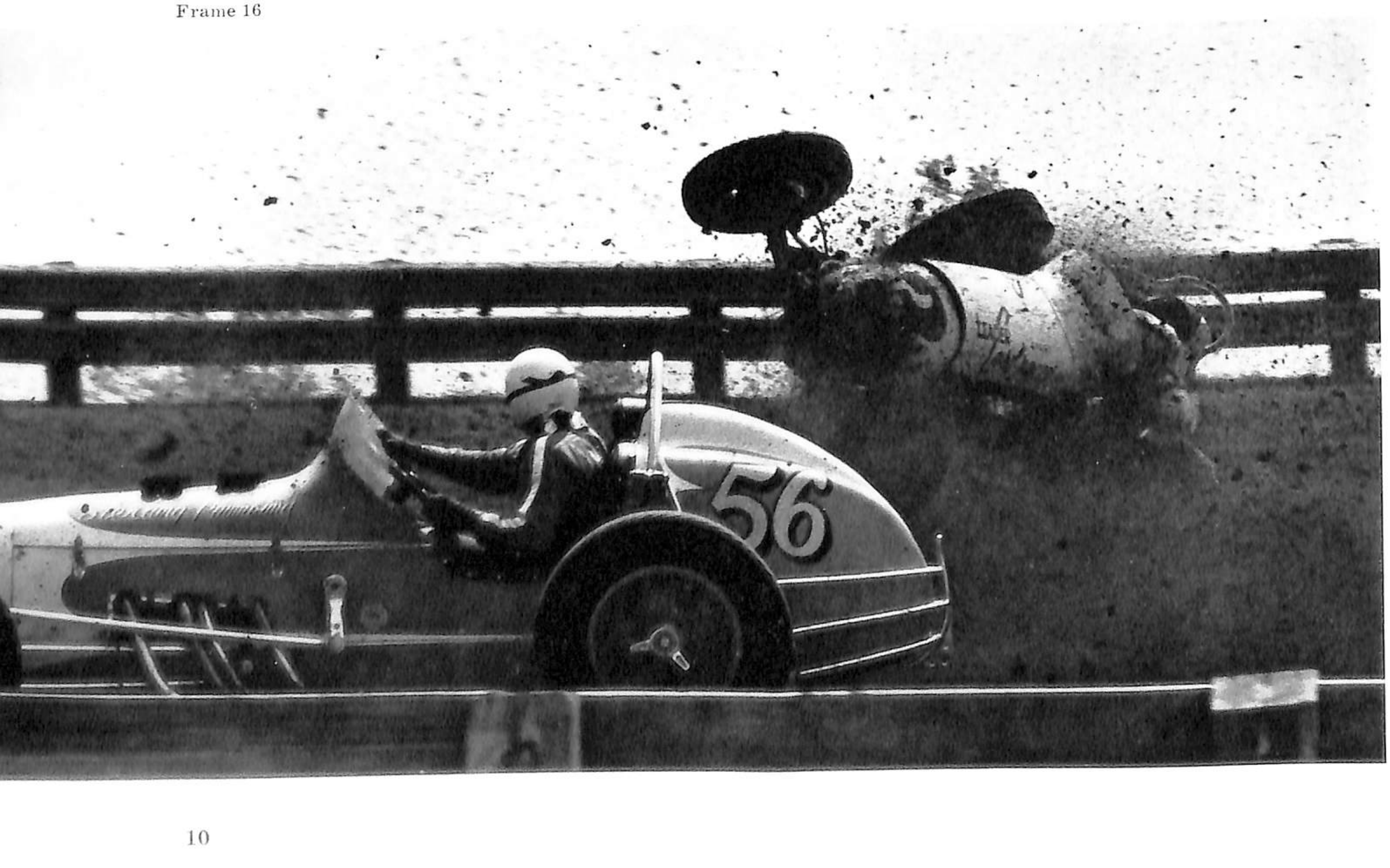
Are Crozier's speed and skill attributable to his long experience with the Leica M2? He's been using one for two years! Well, not quite two *full* years. For he has been earning his living as a Forge Hammer operator for a large plant which makes jet aircraft parts. His photography has been done in off-hours as an extra staffman for the *Indianapolis Star* on an on-call basis and during race week. *(For another remarkable action sequence by a part-time photographer for the* Indianapolis News, *see Leica Photography No. 2, 1960 . . . Ed.)*

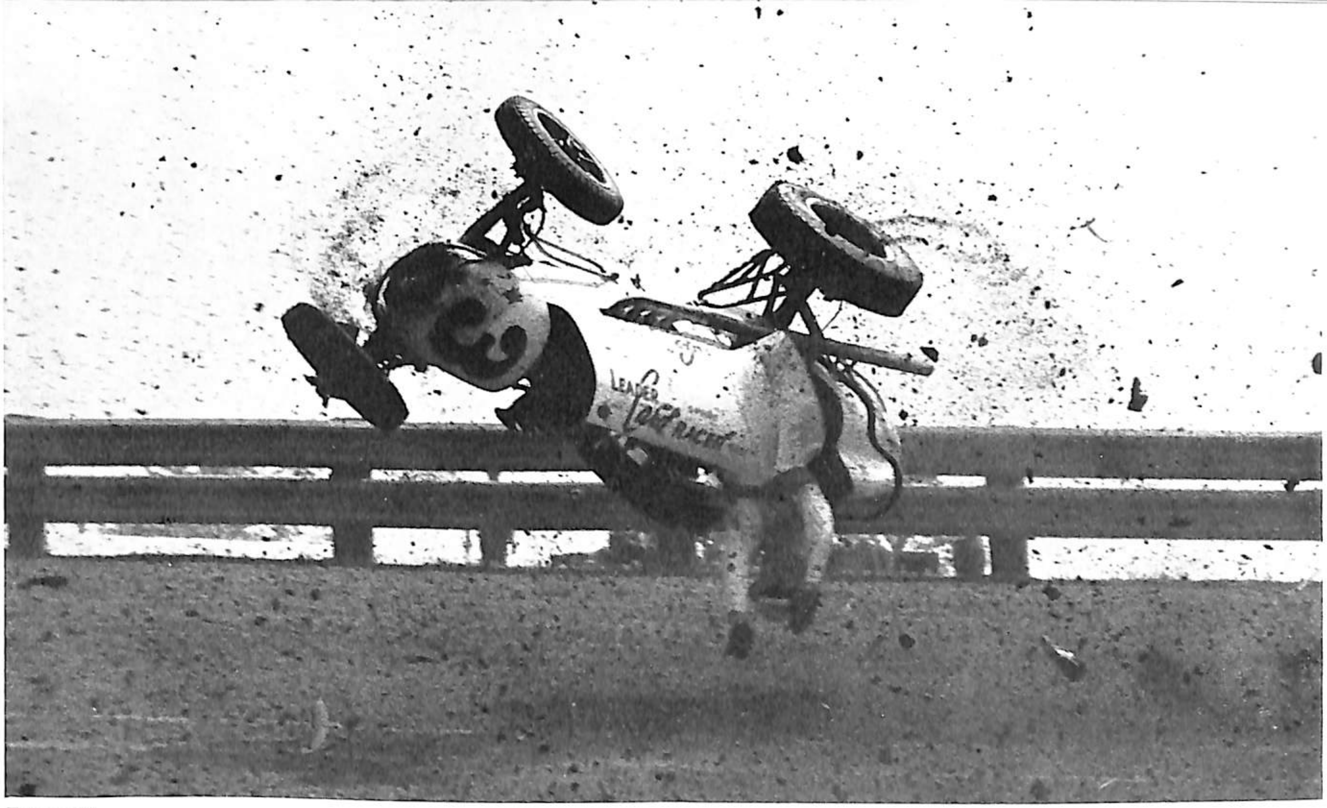
At any rate, the sequence shown here is one of many Crozier has made without rapid-wind gear and in which his Leica has "never missed a frame."

This sequence shows Wayne Weiler, 26, on the Terre Haute (Ind.) Fair Ground Speedway, in June, 1961. Spectacular as it was, the accident was not fatal. All pictures in the sequence were shot with a Leica M2 and the standard film advance lever, a 90mm Elmar lens set at f/11 and a shutter speed of 1/1000th.

Crozier entered military service last November and is slated to become an Army photographer.

Frame 16

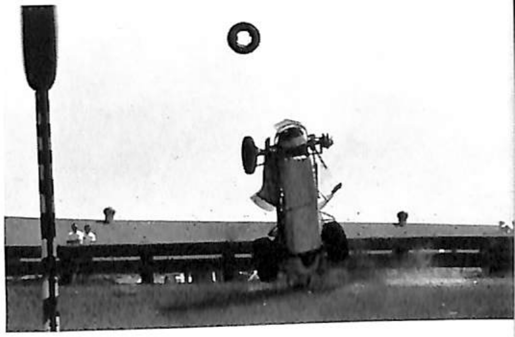




Frame 17

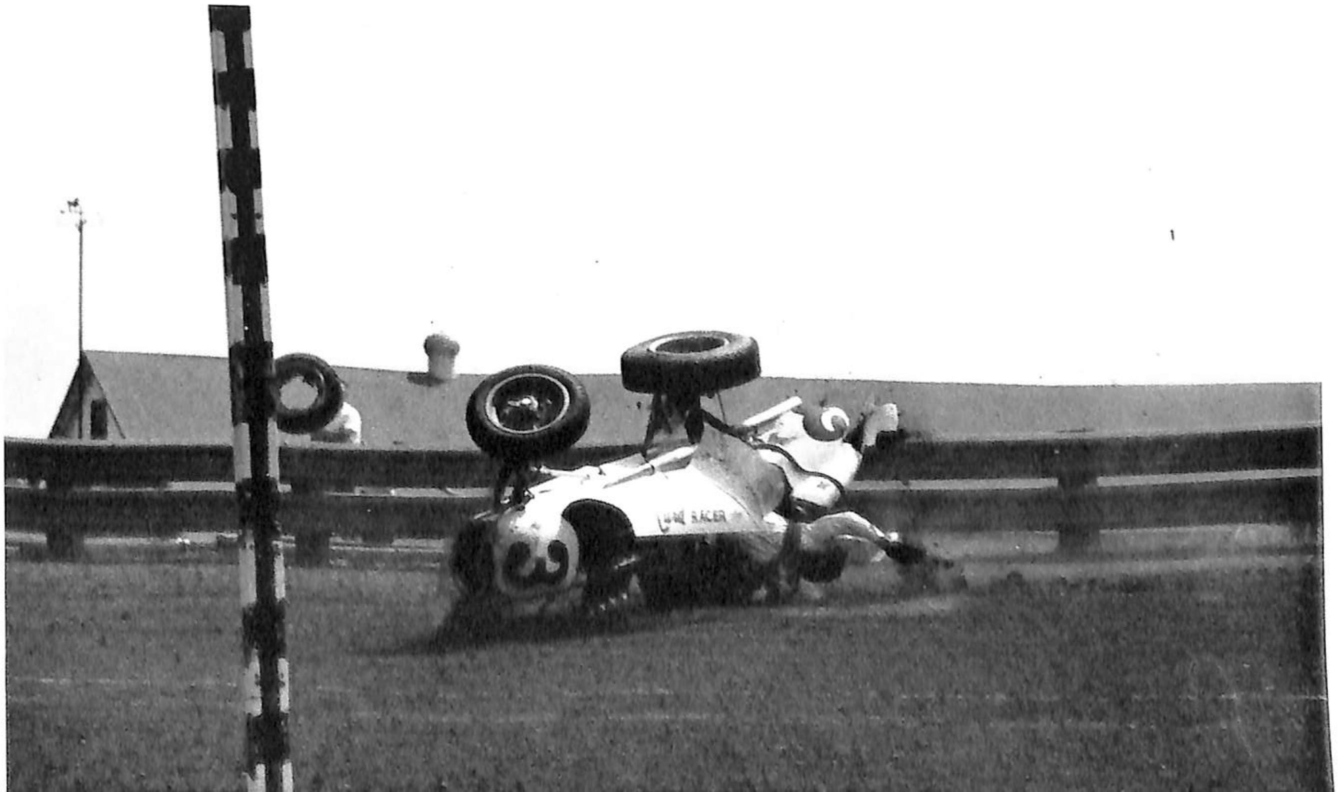
Frame 18

Frame 19



Frame 20

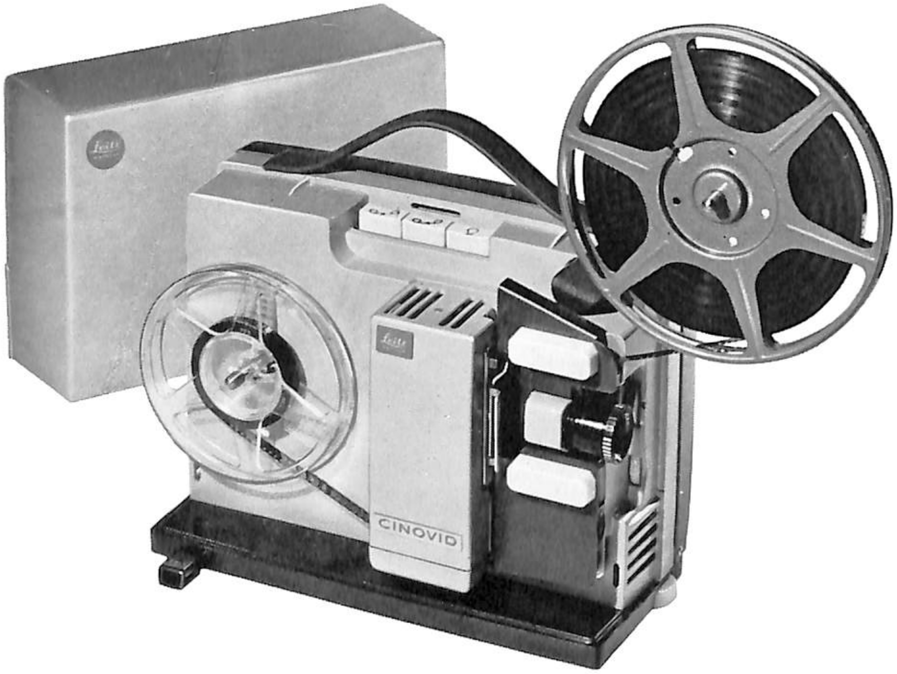
Frame 21



NEW PRODUCTS

new! the Cinovid 8mm projector

it is self-threading, has push-button controls



Screen Image Widths
and Projection Distances
for 8mm Film with
18mm ELKINON® f/1.3 Lens

Approximate Distance	Screen Image Width
13 Feet	40 Inches
16 Feet	50 Inches
19 Feet	60 Inches
23 Feet	70 Inches

The Elkinon 20mm f/1.2 gives the same screen image size from about a 10% greater projection distance.

Approximate Running Time

Length (Feet)	18 FPS.	24 FPS.
1	4.5 Sec.	2.9 Sec.
50	3¾ Mins.	2½ Mins.
100	7½ Mins.	5 Mins.
200	15 Mins.	10 Mins.
400	30 Mins.	20 Mins.

One foot contains about 81 frames.

The new Leitz CINOVID push-button automatic 8mm projector now makes it possible for home movie makers to realize all the quality that is inherent in modern high-definition color films. With the arrival of the CINOVID, home movie-makers now have available a projector with the optical and mechanical perfection of the Leicina. Used as a team the Leicina and the CINOVID preserve the detail and definition so essential to big-screen projection of 8mm movies.

push-button controls

Take off the side cover that makes the CINOVID into a self-contained carrying case, swing the reel arm into position, and you are ready to start.

At the top of the projector are three push-buttons which control its functions—normal projection, reverse projection and rewind and an on-off switch for the lamp. Each push-button bears a graphic symbol of its function—a universal sign language which anyone can read clearly. What's more the circuitry and mechanical design of the controls are fool-proof. It is impossible to push the buttons in a way which might damage the projector.

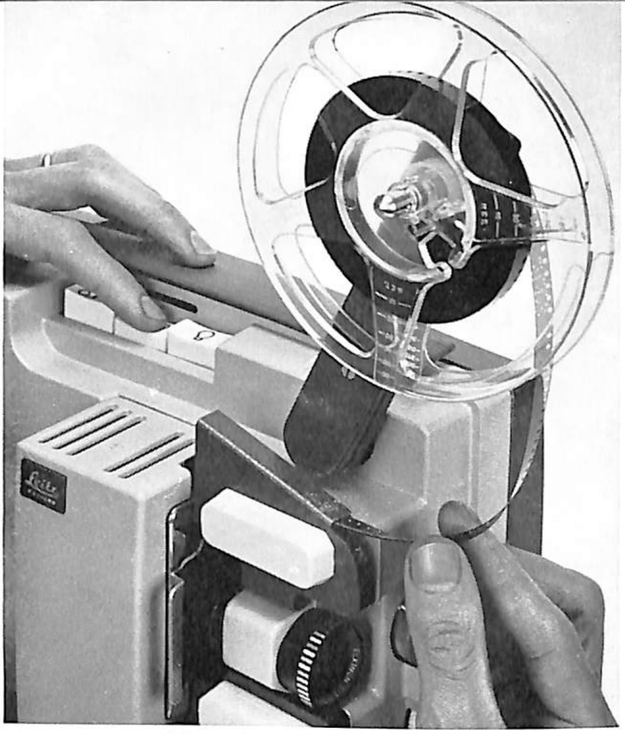
self-threading

The CINOVID performs automatically that most irksome of projection chores – threading. You merely push the leader of the film into a slot and push the normal-projection button. The film feeds through the film gate, around sprocket wheels and out to where it can be attached to the take-up spool. Film loops—so important to smooth projection without "jumpiness" – are formed automatically.

The CINOVID can be used with standard film reels up to 400-foot capacity for shows more than 30 minutes long.

The new projector has two speeds – 18 and 24 frames-per-second. The former is used for normal projection of 8mm originals, while the latter makes it possible to project 8mm originals or copies of 16mm or 35mm movies shot at 24fps. A 50% speed-up of action for comic effect can also be produced by projecting at 24fps pictures made at 16fps.

To repeat scenes, to reverse action for an amusing sequence, you can run the projector backwards with a simple push of the control buttons. This action is also used to rewind the film after projection and is



SELF-THREADING. Cinovid's film loops are formed automatically.

PUSH BUTTONS control Cinovid's operation, and are foolproof.

of importance for sound synchronization. A special socket on the CINOVID is provided to connect the projector to a tape recorder synchronizer.

low-voltage system

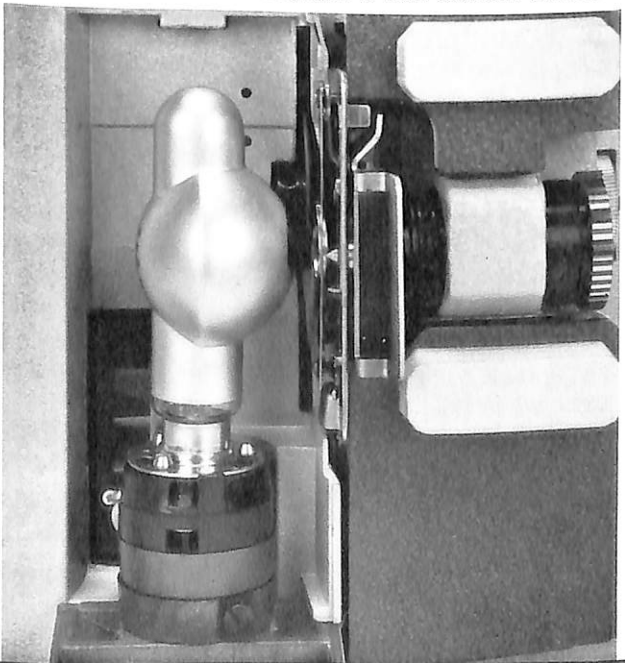
The optical system of the CINOVID employs the much-heralded low-voltage illumination, somewhat comparable to that so successfully used in the Pradovit N 35mm projector.

An 8V/50-watt internally-silvered bulb with built-in ellipsoidal mirror provides maximum light output with minimum heat, assuring plenty of light without danger of damage to the film. Since no mirror or condenser is necessary with the ellipsoidal bulb, the distance between bulb and film gate is greatly reduced. This advantage, plus the absence of condensers in the optical path, offers more screen lumens-per-watt than would a conventional design. And, as a result, the CINOVID has fewer parts to clean and otherwise maintain. The 18mm Elkinon f/1.3 or 20mm Elkinon f/1.2 lenses provide brilliant screen illumination – the latter providing 15% more light than the former because of its larger aperture. The CINOVID is available optionally with either lens.

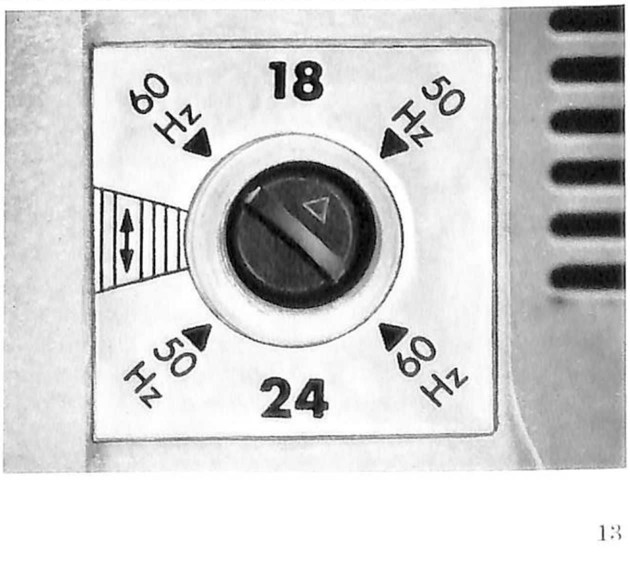
The quiet running CINOVID is powered by a large motor which never needs servicing, and which can be set with a handy switch for either 60-cycle or 50-cycle operation and voltages of 117, 220 and 240. A beltless drive and precision-made claw system assures a constant and accurate film speed producing smooth easy-to-watch screen images.

The CINOVID, complete with 18mm Elkinon f/1.3 coated projection lens, and carrying cover is $282.00. With the 20mm Elkinon f/1.2, it is $297.00.

LOW-VOLTAGE illumination system is both cool and efficient.

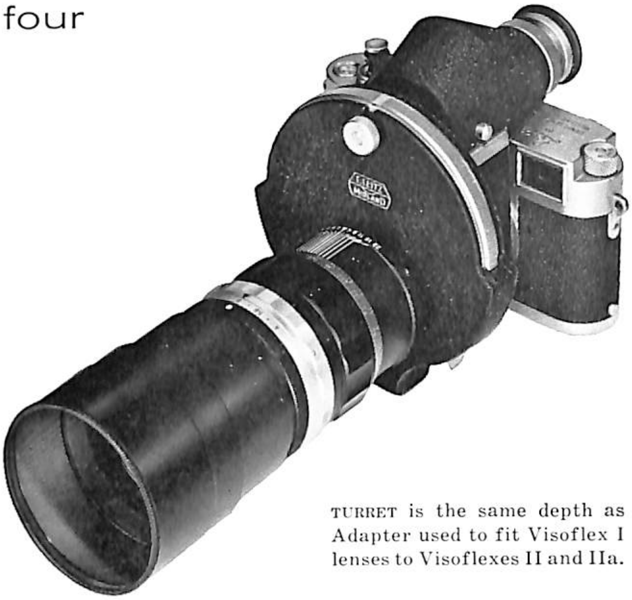


PROJECTION SPEED and electrical cycles-per-second are variable.



three-filter turret for Visoflexes II and IIa

new device lets one filter replace four



TURRET is the same depth as Adapter used to fit Visoflex I lenses to Visoflexes II and IIa.

New to the Leica System is an ingenious filter turret for use with the Visoflex II and the new IIa (see P. 15) and most of the lenses used with them. It holds three Leitz size E43 filters (otherwise used with the 50mm Summilux f/1.4 lens) in what is probably the most convenient position for filters—that is, behind the lens. With special accessory retaining rings, regular Series VI filters may also be used in the turret. This, of course, makes it possible to use the many color-compensating filters (which are not now available in mounts to fit the front of long-focus Leica lenses) for exact color control in photographs.

The new filter turret is the same thickness as the Adapter (Cat. No. 16,466) used to fit Visoflex I lenses to the Visoflex II. Thus, the turret can be substituted for the Adapter and used with any lenses normally used on both the Visoflex I and II-with-Adapter. *It cannot, however, be used with lenses like the 65mm Elmar and the 90mm lenses designed for use with the Visoflex II only.*

classic simplicity

The turret is classically simple in both design and function. It consists of a rotating filter holder in an outer housing with a rear bayonet mount (to attach to the Visoflex) and a screw mount in front (for Visoflex I lenses). In its base are two tripod sockets—one European and one American-thread. A locking lever, when released, permits the Visoflex and camera body to be rotated through 90° as a unit for making verticals when the filter turret is tripod-mounted.

Loosening a set-screw in the top-front of the turret, releases the inner, rotating filter-holder for the insertion of filters of your choice. With filters in place, the holder is replaced in its housing and the set-screw retightened.

For convenient operation, the edge of the circular filter-holder is milled and contains flat "identification segments" at 120° intervals around its circumference. These are flat satin-chromed areas about 5 x 7mm on which can be penciled the type of filter, factor, etc. As each filter reaches the proper position behind the lens, a click-stop arrests the inner filter-holder with the identification segment at the top, clearly visible.

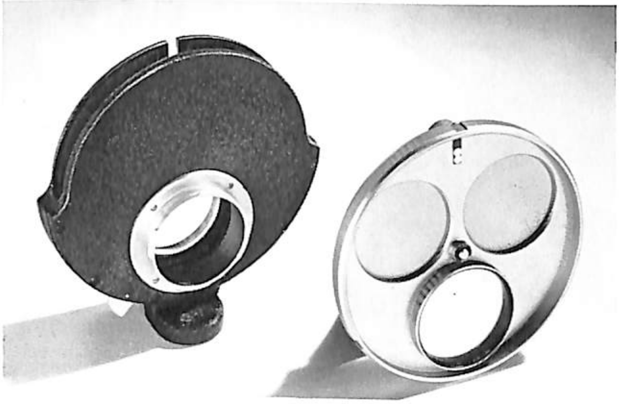
to the rear, mount!

Placing filters to the rear of the lens has marked advantages. Not the least of these is the happy fact that the rear element of the long-focus and telephoto lenses is relatively small. This makes it possible to use one small filter with several lenses which would otherwise call for large individual filters to match their front diameters. And it makes it possible to use filters of many varieties which are not now available for front-mounting on long-focus Leica lenses.

For pictures taken when using the turret "without" a filter, or for focusing by unfiltered light, it is a good idea to use a UVa filter in one of the mounts. This ensures that focusing will always be done with a filter in position.

pays for itself

Besides simplifying the life of the telephotographer by allowing him to use one filter for practically all his long lenses, the new turret actually pays for itself. Consider, for instance, the man who owns the 135mm, 200mm, 280mm and 400mm lenses. For these, without a turret, he requires filters of three different sizes (current 200mm and 280mm lenses use the same size filter) priced at a minimum of $7.20, $13.50 and $27.00 each. Filters for use with color film cost even more and, in the case of the 400mm lens, are not even available. Thus, three sets of three filters for his lenses would cost him $143.10. Using the turret, how-



LEITZ E43 filters are normally used. Adapter for Series VI filters of other makes is shown in the lower opening of the holder.

ever, he needs only three filters (Leitz size E43) at $8.40 each for black-and-white types—a total of only $25.20—and he can use them with all of his long lenses. Furthermore, the Visoflex II owner who buys the filter turret can use it in place of the Adapter (Cat. No. 16,466), which costs $19.50. And since the cost of the filter turret is only $57.00, he saves about $80.00 over the cost of nine separate filters plus the Adapter—more than enough to pay for the turret.

series VI filters

Those who prefer to may alternately use ordinary Series VI filters of various makes in the turret by purchasing simple adapter rings available at $2.40 each. The Series VI filter is mounted in the adapter which is, in turn, screwed into the filter holder opening of the inner disc of the turret. It is important to use only the highest-quality Series VI filters to preserve the outstanding definition of the Leitz lenses.

The Filter Turret (Cat. No. 14,116) accepting three size E43 Leitz filters, is $57.00. Adapter Rings (Cat. No. 14,117) to fit Series VI filters to the Filter Turret are $2.40 each.

Visoflex IIa has instant-return mirror

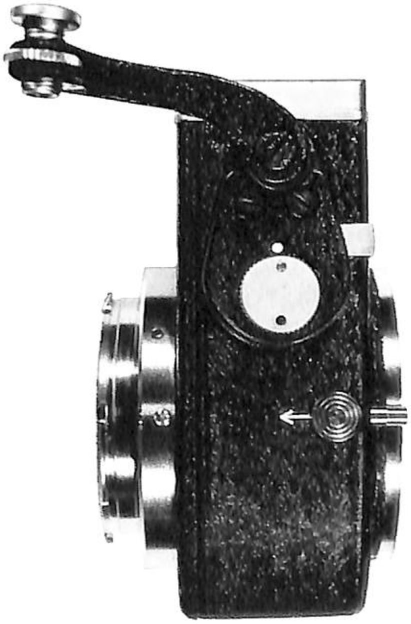
new reflex housing features fast action

The Visoflex – always the brightest reflex viewing system available – now also ranks up with the fastest-to-operate, thanks to the new Visoflex IIa with its bounce-free, instant-return mirror. As its name suggests, the IIa is a modification of the present Visoflex II. Both models will be available concurrently, and the Visoflex II can be converted to the IIa at any time.

two mirror settings

The size and appearance of the new IIa are identical to those of the Visoflex II – but the mirror-return lever is missing because the return action is instant and automatic. On the new model, a milled knob replaces the familiar mirror-return lever of the Visoflex II. In one position (with the red dot on top), the knob permits the instant-return action to function. A 180° turn of the knob (black dot on top) raises the mirror and holds it out of the optical path of the lens for time exposures. A socket is provided to release the shutter by means of a cable release with the mirror in either the instant-return or time-exposure position. The new reflex housing will accept all lenses and accessories used with the Visoflex II.

The Visoflex IIa (Cat. No. 98,301 with bayonet mount, 98,302 with screw mount) will be available sometime in April. Price will be $162.00. The cost of converting a Visoflex II to a IIa is $45.00.



MIRROR-POSITIONING KNOB is used to lift mirror out of light path for making time exposures.

35mm Summicron f/2 on the Prado

50mm Elmar f/2.8 on the Pradovit

wide screen projection: like being there

dramatic perspective brings new realism to slides

"Why it's like looking out a picture window!" said the lady in the flower-decked hat. She was watching a demonstration of Leitz' wideangle projection system. And her reaction sums up the optical magic that it performs for viewers.

But there is no special magic involved in achieving the "natural" perspective that wide-screen, wideangle projection recreates.

The "you-are-there" effect stems from the fact that the picture is shown large enough to force our eyes to scan it, rather than take it in at one glance. This, of course, is what Nature forces us to do in the course of ordinary seeing. So, we feel very much at home in viewing a screen image in this way. But much of the extreme realism of wideangle projection also lies in its ability to create dramatic perspective.

Thus, when a two-dimensional screen image reproduces very closely the relative size and distance relationships of objects in the picture as they appeared to the eye on the scene itself, the picture looks "natural."

The relationship between the viewing distance, the focal length of the camera lens and the size of the screen image establishes this dramatic effect. As mentioned, a huge image – 8 or 10 feet or more in width – is needed to force our eyes to scan it constantly, duplicating our natural way of looking at things.

new short-focus lenses

But how to fill a large screen from living room projection distances? This is where the new, short-focus Leitz projection lenses come in – the 50mm Elmar f/2.8 for the Pradovit projector and the 35mm Summicron f/2 for the Prado. These short focal lengths make it possible to fill a 10-foot screen or wall from normal home-projection distances. For instance – with the 35mm lens, the projection distance is only 10 feet. And with the 50mm lens only 14 feet.

In theory, of course, "natural" perspective, when viewing distance is fixed, is recreated by a fixed relationship between the screen-image size and the focal length of the camera lens. In the case of the 10-foot screen mentioned above, a slide taken and projected from a viewing distance of 10 feet. Note that this is also the projection distance in this case. All of this means that the audience can sit next to the projector, close to the projection axis without getting in the way of the light beam.

And, theory aside, in practice you can readily intermix slides taken with lenses of varying focal lengths, without the need to change the viewing distance. Viewing pictures taken with medium-long and long focus lenses is similar, in wide-screen projection, to looking at the actual scene through binoculars.

suiting yourself

You can find the proper viewing distance perspective in terms of the 35mm and 50mm projection lenses from the accompanying box.

Place the projector high enough so that its optical axis is horizontal (when the picture is centered) and at right angles to the screen surface. Avoid tilting the projector to center the picture on the screen. At the same time, the bottom of the screen should be as

WIDE-SCREEN PROJECTION†

Screen Size	Projection Lens	Projector-to-screen Distance (Feet)	Viewing Distance* (Feet)
6 Feet	35mm	6	6
	50mm	8½	
8 Feet	35mm	8	8
	50mm	11½	
10 Feet	35mm	10	10
	50mm	14	
12 Feet	35mm	12	12
	50mm	17	
14 Feet	35mm	14	14
	50mm	20	

†All measurements are approximate. • *Based on slides taken with 35mm lens, but also suitable for most others.

nearly as possible at floor level. Using a wall for a projection surface solves this problem neatly. Set the projector distance so that a focused slide image fills the screen dimensions without spilling over onto the floor, adjacent walls or ceiling. Painting the wall on either side of the projection area matte-black, or hanging adjustable black draperies, is a good way to control image spill-over.

It is important, in choosing a screen for wideangle projection, to use nothing but a matte-surface or the MW Perluxa. Not only does these surfaces preserve greater definition than others, but they also offer the greatest off-axis brightness. That is, viewers sitting toward the outer edges of the group will see a bright image even though they are not close to the projector axis.

In a good many instances, because of the greater width involved in effective natural-perspective projection, you will prefer to use an available wall area rather than a screen. In this case, be sure that the wall surface is non-textured plaster or wall board and paint it with a good, bright-white, paint.

But some hobbyists or camera club groups may prefer to buy a large screen. On special order Franchised Leica Dealers can supply out-sized MW "Blankana Extra" or Perluxa screens whose surface is especially well-suited for wideangle projection, and which can be custom-sized to individual height and width requirements. (See Leica Photography No. 2, 1961).

slides for wideangle projection

It is best, in taking pictures for wideangle projection, to stick to horizontals. Complete sharpness in the transparency – from foreground to background – is also desirable for wideangle projection.

Slides should be properly exposed, and underexposure should be avoided – especially when they are to be projected on the Pradovit N or 300-watt models of the Prado and Pradovit FA.

Slides intended for wide-screen projection must be scrupulously cleaned and mounted in glass. Because of the tremendous enlargement involved (more than 100X on a 13-foot screen, for instance) the slightest speck of dust and the slightest deviation of the transparency surface from the focal plane of the projector will produce annoying results.

special lenses

There are two Leitz lenses especially designed for wideangle projection: the 50mm Elmar f/2.8 for the Pradovit FA and N projectors, and the 35mm Summicron f/2 *projection* lens for the Prado. (A 50mm Elmar f/2.8 lens and condenser are also available for the Prado.) Each requires a special field condenser which must be used with it. Camera lenses of equivalent focal lengths cannot be used for projection purposes. Nor is it possible to use a 35mm projection lens on regular Pradovit projectors, since the body opening for the counter-sunk lens mount of this projector is not wide enough for the broad light beam produced by a 35mm lens. The Prado projector, however, can be used with either the new 35mm f/2 or the 50mm Elmar f/2.8 *projection* lens (#37,058), plus special condensers. Conversion of the Prado or Pradovit from normal to wideangle projection and vice-versa takes only a few minutes.

Price of the 50mm Elmar f/2.8 lens for the Pradovit in focusing mount (#37,054) is $54.00. Also required is a Double Mount with field condenser and heat filter. The Double Mount (#98,180) for use with the new 50mm lens on the Pradovit FA is $15.00; for use on the Pradovit N and the discontinued Pradovit F, the Double Mount (#37,917) is $13.50.

The 35mm Summicron f/2 projection lens for the Prado, complete with focusing mount and field condenser, (#37,035) is $171.00. A 50mm Projection Elmar f/2.8 (#37, 058) is also available for the Prado at $46.50. A special field condenser for this lens (#98,569) is required and costs $6.00.

here's the "Focorapid" fast-focusing mount

provides click-stop focusing for four lenses

There's the crack of bat against ball and a long hard drive loops toward right field. High in the stadium's press box, a photographer using a telephoto lens on his Leica gets a picture of the fielder's leap for the ball.

A split-second later, the ball is thrown swiftly toward first base to catch a runner diving back to safety to avoid a double play. Again the photographer in the stands gets a dramatic picture of the action, shifting focus from the outfield to a focus pre-set for first base with a flick of his thumb. His secret? A new rapid-focusing mount which accepts the lens unit from any of four long-focus Leica lenses.

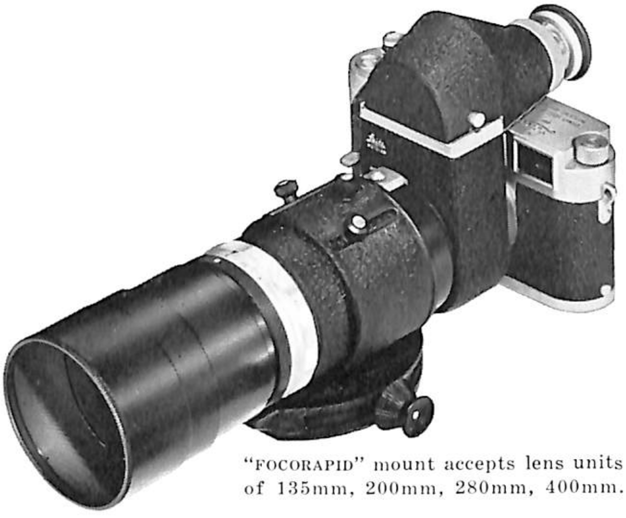
Normally, it takes a heap o' twirlin' to shift the point of focus of long lenses from one spot to another. Pictures of fast action are often missed in the process. But with the new "Focorapid" Rapid Focusing Mount you can shift focus nearly as fast as you can think about doing it.

The "Focorapid" is a quick-focusing lens mount which accepts the lens units of the 135mm Hektor f/4.5 (serial numbers above 250,000) and Elmar f/4, the 200mm Telyt f/4, the 280mm Telyt f/4.8 or the 400mm Telyt f/5. Adapters are required for all of the foregoing except the 200mm f/4 lens unit. An adapter for the former 200mm Telyt f/4.5 will also be available.

click-stop focusing

The most notable and radical feature of the new "Focorapid" mount is its combination lever-wheel focusing combined with adjustable click-stops which snap the lens into pre-set focus settings. Focusing is done by pressing the ball of the thumb against the end of the focusing lever-wheel and moving the latter forward or backward. Pushing the lever-wheel forward (*toward* distant subject matter) moves the lens toward its infinity setting. Moving the knob back toward the camera (and close-at-hand subject matter) racks the lens toward its closer focus settings. Fine-focus adjustments can be made by rotating a segment of the lever-wheel.

The two click-stop settings are controlled by set-screws which can be hand-tightened or released instantly. To pre-set the stops, the lens is pre-focused on the area of anticipated action, after which the set-screw is tightened. To provide for a second anticipated focus setting, the same procedure is carried out using the second set-screw. While actually taking pictures, the photographer can "ride through" the click-stop settings to any needed focus point without altering or harming the click-settings.


"FOCORAPID" mount accepts lens units of 135mm, 200mm, 280mm, 400mm.

A third set-screw on the "Focorapid" mount is used to adjust the infinity setting when lenses of various focal lengths are interchanged. This setting is a firm one and halts the lens travel completely at the point for which it is set.

Another unusual feature of the "Focorapid" mount is its wide focusing range which is greater than that of the standard focusing mounts of most of the lenses which the new units accepts. The 135mm lens, for instance, focuses from infinity down to about three feet in the new mount, compared to the five-foot minimum of the standard mount. The 200mm lens focuses to about six feet (10 feet in its standard mount), and the 280mm to about 11 feet (13 feet in the standard mount).

Like the new filter turret, the "Focorapid" has a provision for rotating the Visoflex and camera as a unit through 90° for making verticals when the mount is used on a tripod.

The "Focorapid" mount, (Cat. No. 14,111) is $159.00. The adapter for the 135mm Hektor f/4.5 and Elmar f/4 is $5.70; for the 200mm Telyt f/4.5, $5.70; for the 280mm Telyt f/4.8, $6.30; for the 400mm Telyt f/5, price to be announced.

Leica school notebook / John Brooks

about focal length and perspective

This is one of several abstracts on general photographic and Leica techniques as taught at the well-known Leica Technical Center school in New York. The school is for Leica dealers and trains them in the theory and techniques of the Leica and its accessories. Once graduated, they are better able to serve the needs of Leica owners. As a service to interested readers, we will, from time to time, reprint some of the class material as it is given to students for their notebooks.

This article discusses focal length and perspective. As you will see, the former has nothing directly to do with the latter. But proper choice of lens focal length permits the photographer to "control" perspective in his pictures . . . Ed.

The focal length of a lens is that distance in back of its rear nodal point at which a sharp image is formed of an object located at infinity. Or, in plain English, the distance the lens is from the film when focused at infinity. (Nodal points are optical points within a lens—or in some instances, as with telephoto lenses, outside the lens—from which lens-to-object and lens-to-image distances are measured. The entrance node is related to the object and the exit node to the image.)

Leica lenses range in focal length from an extreme wide-angle objective of 21mm to an extreme telephoto objective of 400mm. The "standard" or "normal" lens for the Leica negative (24 x 36mm) has a nominal focal length of 50mm.

"normal" focal length

Why is a 50mm lens regarded as normal for the Leica? Because normal vision, without turning the head, covers an area of approximately 45°. Therefore, to include a normal field of view, the camera lens should cover the same angle. The angle of view of a lens is usually based on the diagonal of the negative. And the diagonal of the Leica format is 43mm. So, to cover a 45° angle, a 50mm lens is required.

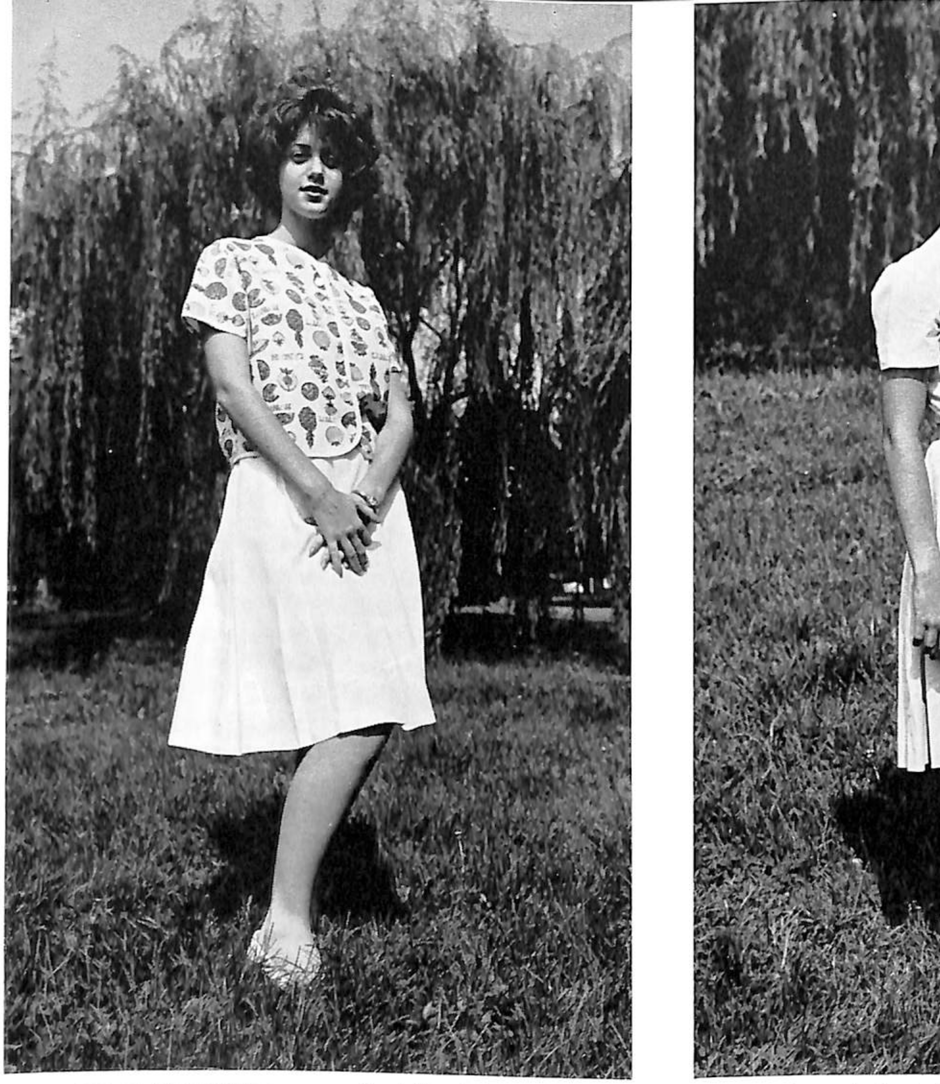
Lenses having a focal length less than 50mm will position closer to the film and will embrace a greater angle. These are known as "wide-angle" lenses. Lenses with a focal length of longer than 50mm will be further from the film plane and cover a smaller angle. Depending upon their construction these are known as either "long-focus" or "telephoto" lenses. A telephoto lens differs from a long-focus objective in that its design places the rear nodal point forward of its normal position (in some instances in front of the lens). This makes possible a reduction in the physical length of the mount.

The size of the image on the Leica negative is in direct proportion to the focal length of the lens used. The shorter the lens, the smaller the image and the longer the lens the larger the image. The 400mm telephoto objective will produce an image whose dimensions are eight times larger than those produced by the 50mm lens at the same distance. The amount that the image of a moving object will move in the film plane is also directly proportional to the focal length of the lens. With a 135mm lens the image of a subject in motion will move 2.7 times further on the film than it will if you used a 50mm lens at the same distance. For this reason, high shutter speeds should be employed when photographing moving subjects with lenses of long-focal length. Camera motion is also exaggerated with long lenses. When using long lenses, a tripod and cable release will ensure sharpest results.

perspective

Since wide-angle lenses take in a greater area, most photographers use them to photograph in tight quarters. And they use long focus lenses for bringing distant objects closer (in the way that you would use a telescope or binoculars). That is fine, but it is only part of the story; lenses of different focal lengths are also used to "control" perspective.

Perspective is not dependent on lens focal length. It is determined solely by camera-subject distance. Broadly stated, perspective amounts to the relationship between the foreground and background of the picture. But a choice of lenses of different focal lengths does enable you to get the desired image size at the selected distance and thus to achieve the best perspective. For example: Suppose you discover a placid farm scene: Rustic rail fence in the foreground and a cow munching on a haystack in the field. The cow and its lunch are 100 feet behind the fence; you are 10 feet in front of the fence. The fence is essential to your composition and you use the 50mm lens.



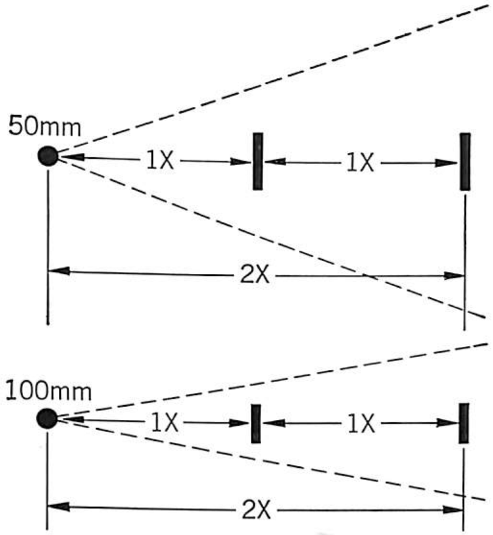
WHICH GIRL IS TALLER? The one on the left, obviously. Obviously, that is, until you look at the picture of both of them together. Actually, Miss Right is taller. Low angle and 35mm lens used fairly close make Miss Left seem tall; higher angle and 90mm lens used from further off lessen Miss Right's apparent height when both images are reproduced the same size. Note the changed perspective—marked by apparent distance of tree in background. Changing lens but not distance would not have changed perspective.

Result . . . ? The cow, which is 110 feet from camera, is too small in relation to the split rails and your picture is a flop. Now change your perspective. Back up to 40 feet from the fence and use the 200mm Telyt. The image of the fence at this distance, is the same size as it was at 10 feet with the 50mm lens since the Telyt enlarged its image four times. The cow is now 140 feet from the camera, but its image is now about 3.2 times larger than it was at 110 feet with a 50mm lens. And in the photograph it looks as if it were only 35 feet away, or 25 feet behind the fence. Result . . .? An interesting picture and pleasing composition. One of the most important functions of the Leica's interchangeable lenses is to offer a choice of focal lengths which can be selected to fit the perspective you want to achieve.

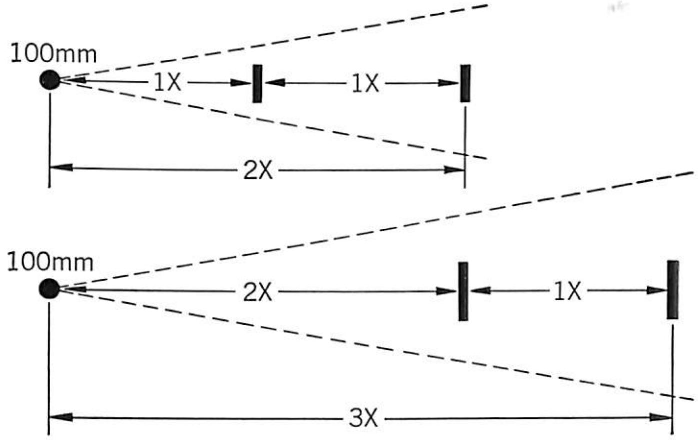
focusing mounts

The focusing mount of a lens and the focal length of the lens that is mounted in it must match one another. As you approach closer to an object, you must focus your lens by moving it further away from the film. The amount of forward movement in the focusing mount when focusing a 35mm lens from infinity to its closest distance of 3.5 feet is approximately 2 millimeters, whereas the 135mm lens requires an extension of 13 millimeters from infinity to its closest distance of 5 feet. So, it is obvious that each focal-length lens must have its own focusing mount.

Not so obvious, but even more important to lens accuracy and interchangeability is the need for individual mounts for individual lenses *which have the same nominal focal length*. This final touch of lens-making precision is provided by Leitz. For each Leitz lens of a given nominal focal length—say, 50mm—there are provided not one, but several lens-mounts. This is done because any lens—of any focal length or manufacture—has both an actual and a nominal focal length. That is, the actual focal length may be a millimeter-or-so longer or shorter than the nominal length (i.e.—50mm, 90mm, etc.) engraved on the



Camera lens changed, distance unchanged = Perspective unchanged.



Distance changed, camera lens unchanged = Perspective changed.

lens. This is inevitable because of the manufacturing tolerances which must be permitted. Tolerances exist not only in grinding the lens elements, but also in the melts of glass from which they are made.

A widely-accepted standard of tolerance in the focal length of high-quality lenses is ±5%, and all Leitz lenses are well within this amount. Yet even these small departures from the ideal are compensated for by matching mounts, graded into focal-length groups. For instance, a lens whose actual focal length departs, say, a half-millimeter from its nominal length, is installed in a mount especially matched to its actual or "equivalent" focal length.

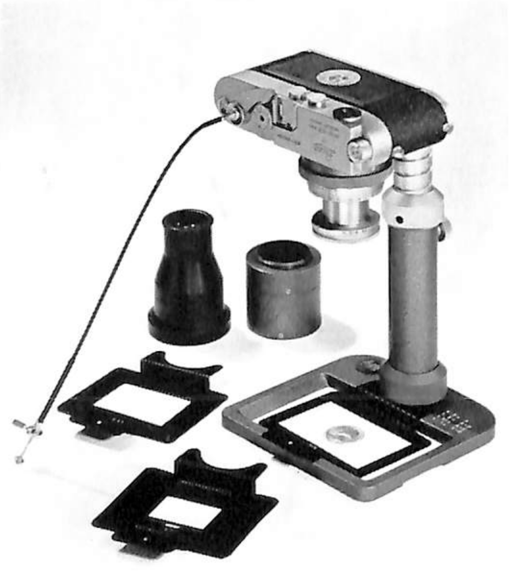
definition is the goal

Slight variations in focal length, as a matter of fact, affect only image size and that to only an insignificant degree. *They do not affect definition at all.* The most important reason for matching a mount to a specific lens is so that it will focus sharply both at infinity, at its nearest focusing distance and at every point in between—with equal accuracy. In meeting standards of definition, the tolerances for lens-positioning are tiny. The permissible variation in lens-to-film-plane distance at every point in the focusing range is from −.01mm to +.00mm! For this reason, each Leica lens mount, graded in a focal-length group, has its own pitch of thread, focusing scale and rangefinder cam. This is important. If a 48.6mm lens should be placed in a 52.2mm mount (both a nominal 50mm) the sharpest focus at minimum distance would be at 2 feet 10 inches rather than 3 feet 6 inches which is the closest marked focusing distance of the mount. This error, which is 19%, would be serious at the close distances where depth of field is shallow.

Leica lenses have matched mounts and Leica cameras have a standard lens-flange-to-film-plane distance. Therefore, Leica lenses may be interchanged between Leica cameras with assurance of exact focus and rangefinder coupling. No calibration or fitting of individual lens to individual camera is necessary.

b/w from color - the easy way / *Stanley R. Balderson*

convert slides to salon prints



BEOON device has four copying ratios, including 1:1.

LIGHT SOURCE utilized by the author is an inexpensive slide sorting device.

Even though you may own and carry two Leicas – one for black-and-white and one for color – there will be times when your chances of shooting the same subject in both ways are slim. And if you are still a one-Leica photographer, you face the choice between black-and-white and color each time you load the camera.

In the first situation, I suggest that you use color in both cameras – keeping lenses of different focal lengths on each for speed and convenience of operation. Then make a black-and-white copy negative from the transparency later. It's a simple job with the BEOON Universal Copying Stand, and the resulting negatives can yield salon-quality prints up to 16 x 20!

a problem-solver

Then why use a second camera or load black-and-white into your only camera at all?

Obviously, because many picture situations will allow you all the time you need to make several shots. And, ideally, your best results in color and black-and-white come from using the appropriate film for each medium for the original exposure. Black-and-white copies from color originals are admittedly a solution to the problem of a less-than-ideal situation. But the technique of making them is so easy and the result so satisfactory that you should add this copy method to your bag of tricks.

The butterfly pictured here is an example of the kind of subject that rarely waits for more than one picture to be taken. The same is true of other subjects when you must wait for just the right light, or the exact instant of action.

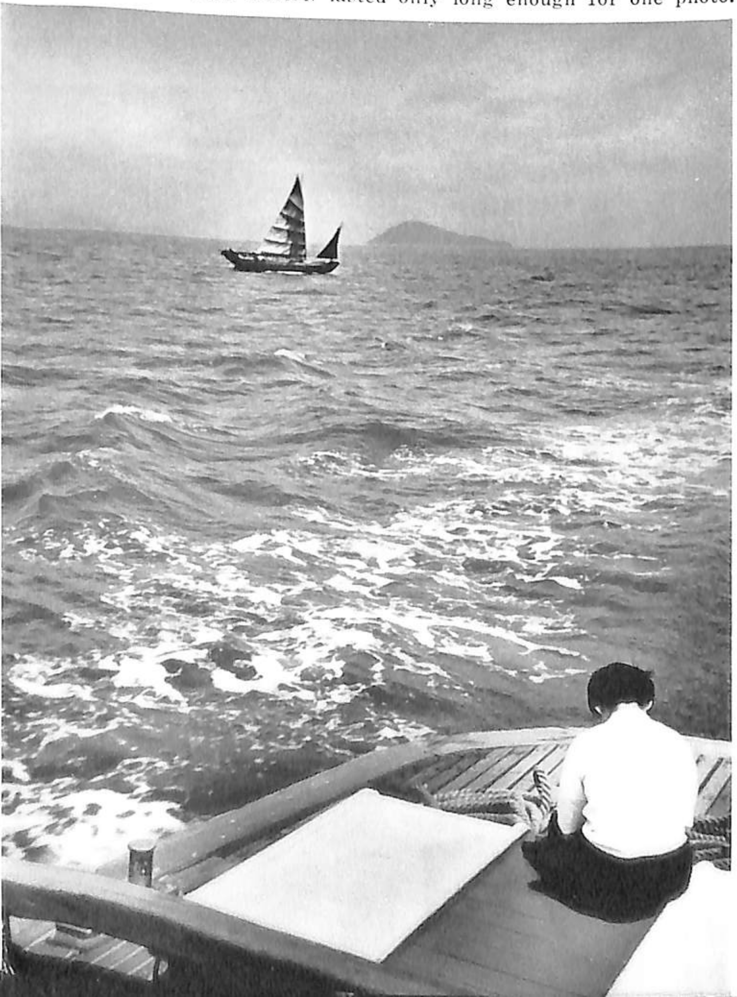
The original of the butterfly picture was taken in daylight on Type F Kodachrome (using a Leitz Type "F" filter), yet I wanted to make a 14 x 17-inch black-and-white exhibition print of it after seeing the transparency. Fortunately, the simple procedure I have worked out with my BEOON copying stand produced an excellent black-and-white negative from the slide in short order.

making copy negatives

The BEOON Universal Copying Stand (Leica Photography Vol. 13, No. 2, 1960) is an easy-to-use

NEGATIVE for this shot was made from a Kodachrome original.

PROPER COMPOSITION lasted only long enough for one photo.



device which permits you to copy slides at 1:1. It also provides copying ratios of 1:1.5, 1:2 and 1:3, which adds to its versatility for other copy jobs involving larger originals.

As a light source, I use an illuminated slide-sorter, although various arrangements work equally well – from the Leitz Illuminating Box to the homemade outfit described in Leica Photography No. 3, 1961.

A piece of black paper such as water color paper or some other non-reflecting material may be used to cover the slide-sorter to eliminate extraneous light. A small section just a bit larger than the 35mm frame is removed from the paper; the copying stand, which has its own 1:1 mask, is placed over the opening. (I must admit that I have used the sorter both with and without the paper mask and the results seem to be about the same).

An incident-type reading can be used to determine the approximate exposure, but the best method I have found is to make at least three different time exposures of each slide.

make tests

First, however, you should establish a standard aperture, such as f/8 or f/11, choose a normal transparency and shoot a roll of test exposures, running the whole gamut of exposures on your Leica. Using a "B" setting and a cable release, go beyond one second, as well. Choose the best resulting negative from this group and use this exposure as the base for future slide-copying at the same aperture and with the same light source. Slides which are lighter or darker than your standard slide will need less or more exposure. Experience will increase your judgement in this area and the bracketed exposures will provide a margin for error.

In my own work, I normally use f/8 and give bracketed exposures of one second, two seconds, and three seconds on successive exposures of the same slide. My film is Isopan IFF rated at 16 and developed in Rodinal diluted 100:1. This combination does very well for me, so I have not bothered to experiment with other processing techniques. This is not to say, however, that other film-developer combinations will not work well. Certainly, you should experiment to find your own favorite. Just keep in mind that you should use a high-resolution film and high-definition developer, aiming for long tonal scale to preserve the sharpness and detail of the original slide.

So, if you have been putting off making black-and-whites from your slides because you thought it too difficult and technical, or because you just didn't know how to go about it – then, by all means try this simple technique with the BEOON.

learn to speak basic "movie"

a vocabulary for Leicina users

Angle Shot – Any shot taken with the camera appreciably above or below the normal position (eye-level or a little below).

Animation – The shooting of one frame at a time to give some stable object such as a drawing or a doll an appearance of movement on the screen. One frame is shot and then the position of the subject is changed slightly before the next frame is shot. This process is repeated with each frame. When the film is projected, the subject will appear to move.

Camera Angle – The viewpoint of the camera in relation to the subject photographed.

Close-up – A close shot in which usually only a detail of the subject or scene is shown on the screen.

Continuity Shot–A relevant shot cut in between two matched shots (see "matched action") to conceal a jump in continuity.

Cross-Cutting – The editing process of cutting from one line of action to another which is dramatically related. For example, shots of the wagon train being attacked by Indians are cross-cut with shots of the U.S. Cavalry riding to the rescue.

Cut – The sudden change from one picture to another produced by splicing two different shots together.

Dissolve – The gradual merging of one shot into the next, the first shot fading out as the second fades in over it. Also called "lap dissolve."

Dolly – A movement of the camera toward ("dolly-in") or away ("dolly-back") from a stationary object. Also a moveable platform used to move the camera toward, or away from the subject.

Editing – The final step in making a film. This consists of assembling the shots in the proper order and length to create the effect desired.

Fade-out – The gradual disappearance of the screen image into darkness.

Fade-in – The gradual appearance of the screen image from darkness. Opposite of "fade-out."

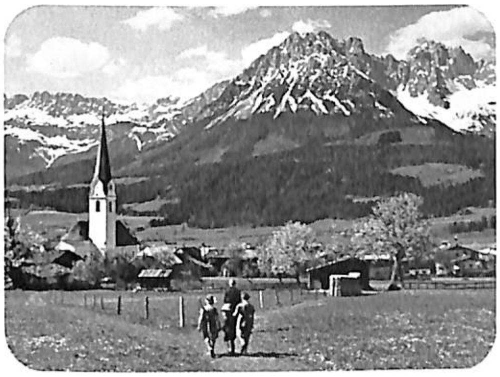
Fast Motion – The mechanical speeding up of movement on the screen produced by shooting at a slower than normal speed in the camera.

Film Space – Apparent space relationships which are produced purely by the editing of the film. For example, a shot of a man looking and then a shot of a pretty girl suggests a spatial relationship between the two, even though the shots may have been taken hundreds of miles apart.

Film Time – Apparent time span provided purely by the editing of the film. The time an event takes on the screen can be longer or shorter than it would *actually* take in real life.

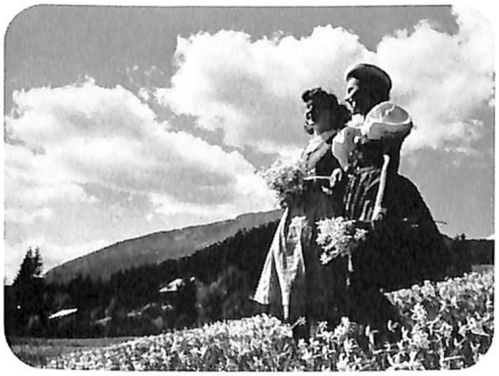
Follow Focus – The necessary change of focus to keep an object sharp as it changes its distance from the camera or changes its position in relation to the object. Only of concern to 8mm filmers when something moves in or out of extreme close-up.

Insert Shot – A shot of a static object like map or diagram inserted into the film.



Long Shot – A shot in which the camera is some distance from the subject, establishing it in relationship to its surrounding. A long shot is often called an "establishing shot."

Matched Action – The joining of two shots at a point at which the action in the first leaves off at exactly the point where it begins in the second.



Medium Shot – The shot in between a long shot and a close-up. Whereas the long shot is used to establish and the close-up to emphasize, the medium shot is the standard shot in which most of the scene is usually played.

Negative – Original film on which the picture is recorded in reverse values of light and dark. Negative film is never run through the projector but is used to make the prints which are projected. It is very seldom used in 8mm filming.

Pan – Turning of the camera on its axis horizontally. (You *pan* back and forth).

Perforations – A series of holes punched along the edge of the movie film so that a claw or sprocket wheel may engage with them for positive registration and movement in both the camera and the projector.

Reversal Stock – Original film which, by special developing, is made directly into a positive image capable of being projected. Most 8mm shooting is done with reversal color film.

Scenario – The manuscript of the film in story form.

Scene – A single episode in the filmed story consisting of a number of shots.

Shot – A strip of film exposed with one running of the camera, giving complete continuity of motion on the screen.

Shooting Script – A detailed list of the individual shots in a film, giving the action, camera position, etc.

Slow Motion – A mechanical slowing down of movement on the screen, produced by shooting at a *faster* than normal speed in the camera.

Superimposure – A double exposure of the same strip of film producing one image over the other. To do this the same film must be run through the camera twice. A variety of superimposure is used in making a dissolve.

Sync – A term used for movie sound when it is in exact synchronization with the picture on the screen. Records or tape recordings of sounds and music can be synchronized to your film.

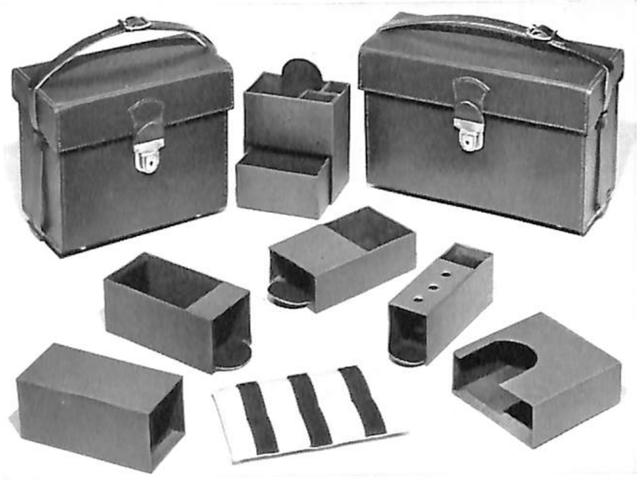
Tilt – The movement of the camera on its axis vertically (you *tilt* up and down).

Time Lapse – The process of animation (see "animation") usually applied to things which move imperceptibly such as growing plants, the movement of stars in the heavens, etc.

Trucking – The movement of the entire camera to follow a moving subject or to introduce movement into a static shot.

Zoom – The enlarging (zoom-in) or contracting (zoom-out) of the image on the screen. Gives a similar effect to a dolly-in or dolly-out but is achieved by special "zoom lens" instead of by actually moving the camera.

focusing on...



improved Benser cases. Two new Benser carrying cases, developments of the famous model introduced at the 1960 Photokina, are now available. The new cases, the Model I and Model II, are identical in depth and height, but the Model I is about 2½ inches shorter than the Model II and so holds fewer inserts. It is intended principally for amateur use or "day trip" photography.

Because the dimensions of the original Benser case limited the size of the equipment inserts somewhat, the new cases are roomier than the first model. This, in turn, permits larger inserts which can carry certain Leica equipment which could not have been accommodated by the original, smaller inserts.

Inserts for the Model I and Model II Benser cases are interchangeable in the new cases, *but will not fit the former case*. They are designated "LE 1, LE 2," etc. to distinguish them from earlier inserts which were numbered "L 1, L 2," etc. The earlier ("L" series) inserts will fit the Model I and Model II cases, however.

Price of the Model I Case (Cat. No. 98,901), without inserts is $25.50; the Model II (Cat. No. 98,902) is $31.50. Inserts range in price from $1.50 to $6.60. Combination outfits for various popular Leica outfits, consisting of a Model I or Model II case fitted with varying groups of inserts are available at prices from $40.65 to $59.10.

color courses. Helen C. Manzer, FPSA, ARPS, the widely-known color photographer, teacher, judge, exhibitor and lecturer, will again offer courses in color photography this summer and fall.

There will be three courses offered on California's Monterey Peninsula: First group from May 27 to June 8; second group from June 17 to June 29; third group from July 1 to July 13. Further information about these West Coast courses is available from Louise Van Sickle, P.O. Box 661, Carmel, California.

The East Coast courses will be held in the famous Lakes Region of New Hampshire. The first course is from July 30 to August 10; second course, August 13 to August 24. Two special courses featuring fall foliage are also offered. First of these is from September 30 to October 5 and the second from October 7 to October 12. For more information about the New Hampshire courses, write to Ruth L. Wiesen, P.O. Box 70, Laconia, N.H.

back issues. In response to many requests, we are listing below the back issues of Leica Photography which are still available.

The Fall and Winter 1956, and Spring, Summer and Fall issues of 1957 are available *in limited quantities* at $0.25 each for domestic and $0.50 each for foreign orders. Spring, Summer, Fall and Winter issues from 1958 through 1961 are available for $0.40 and $0.80 a copy for domestic and foreign orders respectively.

Please note that there was no Winter 1957 magazine issued, since some confusion exists in the minds of readers about its availability.

Please mail your requests and payment to the Circulation Dept., Leica Photography, c/o E. Leitz, Inc., 468 Park Ave. S., New York 16, N. Y.

auld lang syne. Andrew Poggenpohl, Art Editor, National Geographic Magazine, reports the following, which occurred in the heart of New York City: "I was walking out of Grand Central Station with a Leica IIIf (without case) . . . over my shoulder when a total stranger grabbed me by the arm and begged to see my camera. As he fingered it lovingly, he professed to having owned a IIIf once and to regret that his present M3 was not pocket-sized. Finally he asked me, with a touch of hesitancy, if I would let him put my camera into his hip pocket just to experience that old, familiar feeling. I gave him the camera, and while I held his billfold, he walked around me a couple of times, his smile reflecting . . . sheer delight. We then exchanged camera for billfold and went our ways."

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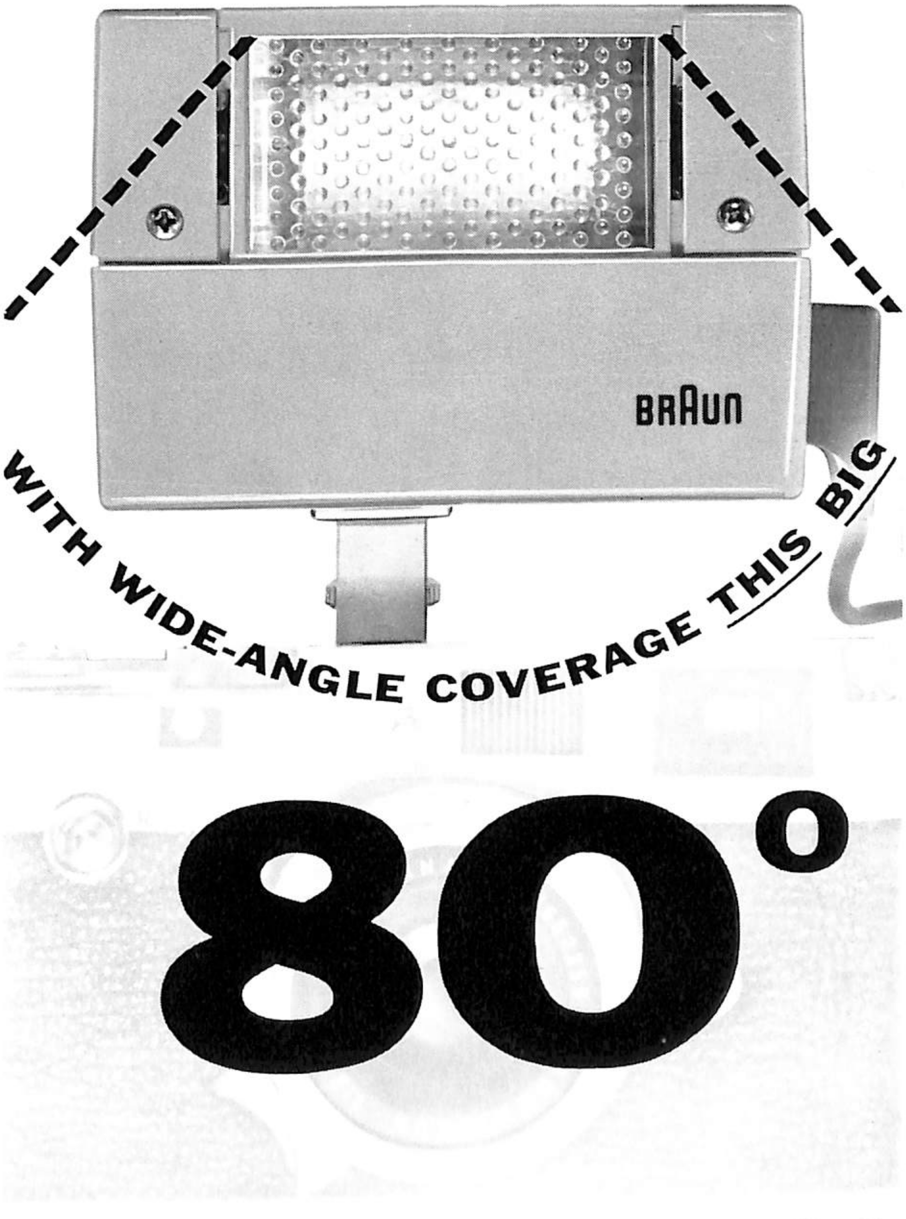

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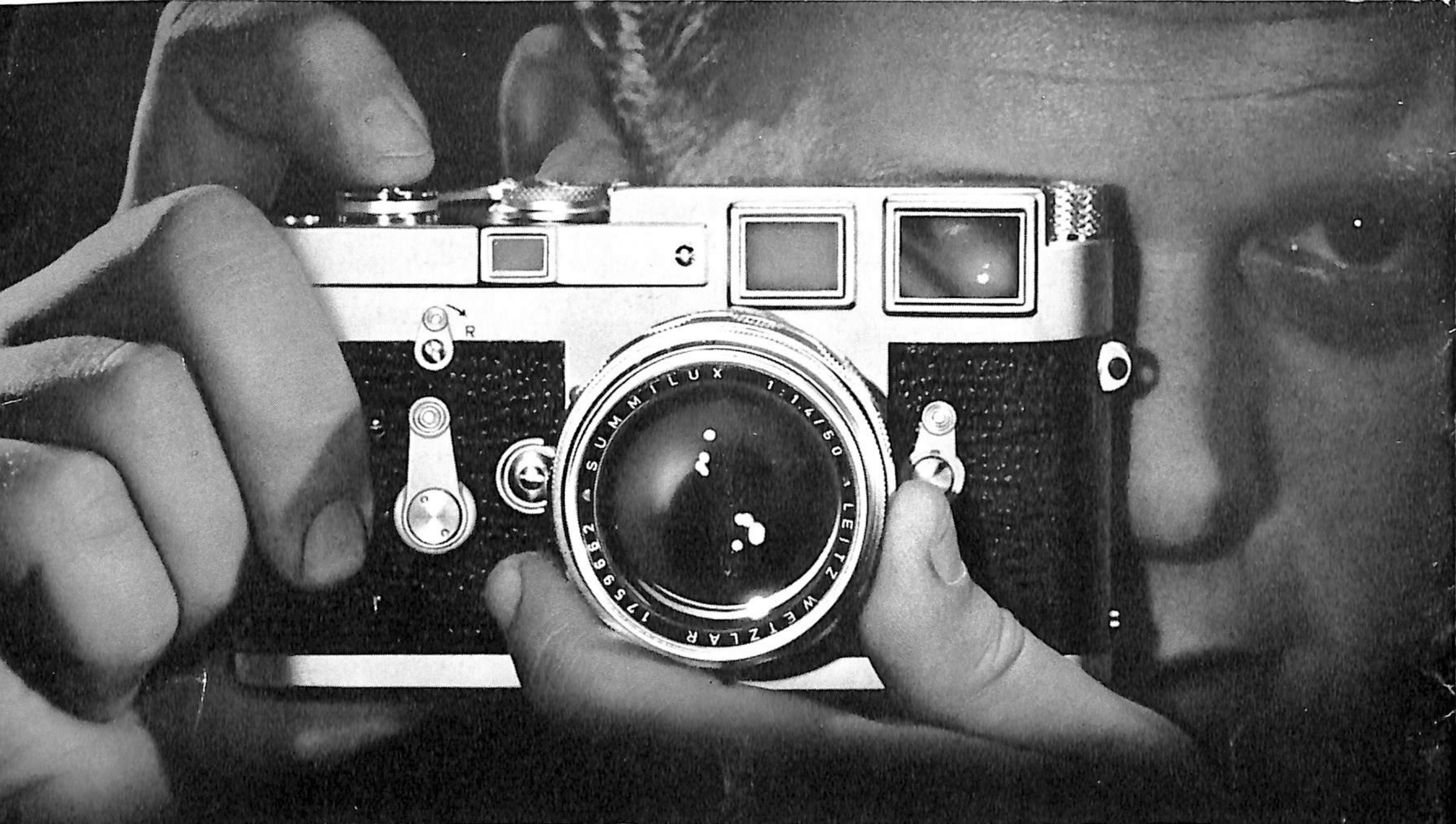

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